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EXAMINER	
FOX, BRYAN J	

ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 10/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/998,964	ARIGA ET AL.	
	Examiner	Art Unit	
	Bryan J. Fox	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,7-13,16,17,19 and 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,7-13,16,17,19 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3, 8, 12, 13, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garcia-Luna-Aceves et al (US 20030037167A1) in view of Sausta et al (US5034993).

Regarding **claim 1**, Garcia-Luna-Aceves et al discloses an ad-hoc network 10, which reads on the claimed "network system", including a number of Internet Radios 16a-16 (see page 4, paragraph 42 and figure 1), which read on the claimed "relay station device" and hosts 22A-22C (see page 4, paragraph 43 and figure 1), which read on the claimed "terminal communicating with said center via said relay station device". Internet Radios 16a and 16b may act as "AirHeads", communicating with a router to the Internet, which reads on the claimed "said relay station device has a first function for directly communicating with said center", while Internet Radios 16c-16i communicate with the router to the Internet via the "AirHeads" 16a and 16b (see page 4, paragraphs 42 and 43 and figure 1), which reads on the claimed "second function for communicating with said center via another relay station". Garcia-Luna-Aceves et al

fails to disclose choosing an operating mode based upon a communication quantity of the relay station device.

In a similar field of endeavor, Sausta et al discloses a system that allocates reserve resources based on the load in two systems. When one system is using all its resources, a specific request for additional resources is received from a communication system in need and a repeater is assigned to that system (see column 3, lines 12-21), which reads on the claimed, "a mode switching signal being transmitted when the communication quantity reaches a predetermined condition." The permanently allocated resources in that system read on the claimed "threshold."

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Garcia-Luna-Aceves et al with Sausta et al to provide an efficient, automatic technique for temporarily allocating RF communication resources among RF communication systems, as suggested by Sausta (see column 1, lines 26-35).

Regarding **claim 12**, Garcia-Luna-Aceves et al discloses an ad-hoc network 10 including a number of Internet Radios 16a-16 (see page 4, paragraph 42 and figure 1), which read on the claimed "relay station device" and hosts 22A-22C (see page 4, paragraph 43 and figure 1), which read on the claimed "terminal". The hosts access the Internet through the network 10 (see page 4, paragraph 43 and figure 1), which reads on the claimed "relay unit relaying communication between a center and a terminal". The Internet Radios 16a and 16b may act as "AirHeads", communicating with a router to the Internet, which reads on the claimed "said relay station device has a first executing

unit executing a first function for directly communicating with said center", while Internet Radios 16c-16i communicate with the router to the Internet via the "AirHeads" 16a and 16b (see page 4, paragraphs 42 and 43 and figure 1), which reads on the claimed "second executing unit executing a second function for communicating with said center via another relay station". Garcia-Luna-Aceves et al fails to disclose choosing an operating mode based upon a communication quantity of the relay station device.

In a similar field of endeavor, Sausta et al discloses a system that allocates reserve resources based on the load in two systems. When one system is using all its resources, a specific request for additional resources is received from a communication system in need and a repeater is assigned to that system (see column 3, lines 12-21), which reads on the claimed, "a mode switching signal being transmitted when the communication quantity reaches a predetermined condition." The permanently allocated resources in that system read on the claimed "threshold".

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Garcia-Luna-Aceves et al with Sausta et al to provide an efficient, automatic technique for temporarily allocating RF communication resources among RF communication systems, as suggested by Sausta (see column 1, lines 26-35).

Regarding **claims 2 and 13**, Garcia-Luna-Aceves et al fails to teach switching modes of operation in response to communication quantity.

In a similar field of endeavor, Sausta et al discloses a system that allocates reserve resources based on the load in two systems. When one system is using all its

resources, a repeater is assigned to that system (see column 3, lines 15-21). The permanently allocated resources in that system read on the claimed "threshold".

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Garcia-Luna-Aceves et al with Sausta et al to include the above dynamic allocation of resources in order to provide an efficient, automatic technique for temporarily allocating RF communication resources among RF communication systems, as suggested by Sausta (see column 1, lines 26-35).

Regarding **claim 3**, Garcia-Luna-Aceves et al fails to disclose switching modes in response to a communication quantity.

In a similar field of endeavor, Sausta et al discloses that a resource manager 305 allocates or de-allocates resources based upon loading information (see Sausta et al column 3, lines 57-62).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Garcia-Luna-Aceves et al with Sausta et al to include the above dynamic allocation of resources in order to provide an efficient, automatic technique for temporarily allocating RF communication resources among RF communication systems, as suggested by Sausta (see column 1, lines 26-35).

Regarding **claim 8**, Garcia-Luna-Aceves et al discloses an ad-hoc network 10, which reads on the claimed "network system", including a number of Internet Radios 16a-16 (see page 4, paragraph 42 and figure 1), which read on the claimed "relay station device" and hosts 22A-22C (see page 4, paragraph 43 and figure 1). Internet radio 16d reads on the "first relay station device," and Hosts 22A or 22B reads on the

claimed "terminal communicating with said center via said first and second relay station devices." Internet Radios 16a and 16b may act as "AirHeads," communicating with a router to the Internet, while Internet Radios 16c-16i communicate with the router to the Internet via the "AirHeads" 16a and 16b (see page 4, paragraphs 42 and 43 and figure 1), which reads on the claimed "wherein said first relay station device has a first function for directly communicating with said center and a second function for communicating with said center via another relay station." Garcia-Luna-Aceves et al fails to disclose choosing an operating mode based upon a message indicating mode switching received from a slave station.

In a similar field of endeavor, Sausta et al discloses a system that allocates reserve resources based on the load in two systems. When one system is using all its resources, a repeater is assigned to that system based on a request for allocation of more resources (see column 3, lines 15-21). The permanently allocated resources in that system read on the claimed "threshold," and the request for more resources reads on the claimed "message indicating mode switching received from a slave station," wherein the newly assigned repeater is switching modes when assigned.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Garcia-Luna-Aceves et al with Sausta et al to provide an efficient, automatic technique for temporarily allocating RF communication resources among RF communication systems, as suggested by Sausta (see column 1, lines 26-35).

Regarding **claim 16**, Garcia-Luna-Aceves et al discloses an ad-hoc network 10 including a number of Internet Radios 16a-16 (see page 4, paragraph 42 and figure 1), which read on the claimed "relay station device", and, "relay unit relaying communication between a center and a terminal," and hosts 22A-22C (see page 4, paragraph 43 and figure 1). Internet Radios 16a and 16b may act as "AirHeads", communicating with a router to the Internet, which reads on the claimed "first executing unit executing a first function for directly communicating with said center", while Internet Radios 16c-16i communicate with the router to the Internet via the "AirHeads" 16a and 16b (see page 4, paragraphs 42 and 43 and figure 1), which reads on the claimed "second executing unit executing a second function for communication with said center via another relay station". Garcia-Luna-Aceves et al fails to disclose choosing an operating mode based upon a message indicating mode switching received from a slave station.

In a similar field of endeavor, Sausta et al discloses a system that allocates reserve resources based on the load in two systems. When one system is using all its resources, a repeater is assigned to that system based on a request for allocation of more resources (see column 3, lines 15-21). The permanently allocated resources in that system read on the claimed "threshold," and the request for more resources reads on the claimed "message indicating mode switching received from a slave station," wherein the newly assigned repeater is switching modes when assigned.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Garcia-Luna-Aceves et al with Sausta et al to include the above

dynamic allocation of resources in order to provide an efficient, automatic technique for temporarily allocating RF communication resources among RF communication systems, as suggested by Sausta (see column 1, lines 26-35).

Regarding **claim 17**, Garcia-Luna-Aceves et al discloses an ad-hoc network 10 including a number of Internet Radios 16a-16 (see page 4, paragraph 42 and figure 1), which read on the claimed "relay station device", and, "relay unit relaying communication between a center and a terminal," and hosts 22A-22C (see page 4, paragraph 43 and figure 1). Internet Radios 16a and 16b may act as "AirHeads", communicating with a router to the Internet, which reads on the claimed "first executing unit executing a first function for directly communicating with said center", while Internet Radios 16c-16i communicate with the router to the Internet via the "AirHeads" 16a and 16b (see page 4, paragraphs 42 and 43 and figure 1), which reads on the claimed "second executing unit executing a second function for communication with said center via another relay station". Garcia-Luna-Aceves et al fails to disclose choosing an operating mode based upon a message indicating mode switching received from a slave station.

In a similar field of endeavor, Sausta et al discloses a system that allocates reserve resources based on the load in two systems. When one system is using all its resources, a repeater is assigned to that system based on a request for allocation of more resources (see column 3, lines 15-21). The permanently allocated resources in that system read on the claimed "threshold," and the request for more resources reads

on the claimed "message indicating mode switching received from a slave station," wherein the newly assigned repeater is switching modes when assigned.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Garcia-Luna-Aceves et al with Sausta et al to include the above dynamic allocation of resources in order to provide an efficient, automatic technique for temporarily allocating RF communication resources among RF communication systems, as suggested by Sausta (see column 1, lines 26-35).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Garcia-Luna-Aceves et al in view of Ramanathan (US005850592A).

Regarding **claim 4**, Garcia-Luna-Aceves et al discloses an ad-hoc network 10, which reads on the claimed "network system", including a number of Internet Radios 16a-16 (see page 4, paragraph 42 and figure 1), which read on the claimed "relay station device" and hosts 22A-22C (see page 4, paragraph 43 and figure 1), which read on the claimed "terminal communicating with said center via said relay station device". Internet Radios 16a and 16b may act as "AirHeads", communicating with a router to the Internet, which reads on the claimed "said relay station device has a first function for directly communicating with said center", while Internet Radios 16c-16i communicate with the router to the Internet via the "AirHeads" 16a and 16b (see page 4, paragraphs 42 and 43 and figure 1), which reads on the claimed "second function for communicating with said center via another relay station," and, "wherein one of a first operating mode for executing said first function and a second operating mode for

executing said second function is set to said relay station device." Garcia-Luna-Aceves et al fails to expressly disclose outputting a communication stop signal when the relay station device cannot communicate with a host station, and the host station outputting a recovery signal when the relay station is communicable with the host station, and selecting the mode of operation based on one of these signals.

In a similar field of endeavor, Ramanathan discloses a communication network employing a plurality of similar mobile stations, some of which are operating as cluster gateways and some of which are operating as non-gateway, or cluster member stations (see column 3, lines 1-13 and figure 1). The cluster gateway mode of operation reads on the claimed "first operating mode for executing said first function" and the non-gateway or cluster member mode reads on the claimed "second operating mode for executing said second function". A station first attempts to affiliate with an existing cluster gateway station, and, if successful, operates as a cluster member (see column 3, lines 41-50 and figure 2). However, if the station cannot connect to an existing cluster gateway station, the station enters operation as a cluster gateway (see column 4, lines 8-19 and figure 2), which reads on the claimed "said relay station device cannot communicate with a host station including said another relay station, said relay station device is set to said first operating mode". If at some point the station determines that it is no longer able to communicate, it re-executes the affiliation procedure (see column 3, line 42 – column 4, line 10). Periodically, each gateway station tests its proximity conditions to other gateway stations, e.g., by signal strength measurements or using other data available through the exchanging of messages by the cluster gateway

stations which make up the network background and if the test indicates that the proximity conditions are exceeded, i.e., that the particular station's operation as a gateway is possibly redundant and/or unnecessary, the station executes a resignation procedure (see column 4, lines 30-46), which reads on the claimed, "wherein when said host station can communicate with said relay station device, said host station outputs to said center a recovery declaration signal indicating that said host station can communicate with said relay station device, and wherein said center outputs to said relay station device a recovery notification signal indicating that said host station is communicable based on said communication stop signal and said recovery declaration signal, and wherein said relay station device is switched from said first operating mode to said second operation mode in response to said recovery notification signal."

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Garcia-Luna-Aceves et al to include the above mode switching as disclosed by Ramanathan in order to provide a network which posses the ability to adaptively reorganize in the face of movement or destruction and that is highly reliable and simple and inexpensive to construct as suggested by Ramanathan (see column 1, lines 50-56).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Garcia-Luna-Aceves et al in view of Hill et al (US006381467B1).

Regarding **claim 7**, Garcia-Luna-Aceves et al discloses an ad-hoc network 10, which reads on the claimed "network system", including a number of Internet Radios

16a-16 (see page 4, paragraph 42 and figure 1), which read on the claimed "relay station device" and hosts 22A-22C (see page 4, paragraph 43 and figure 1). Internet radio 16d reads on the "first relay station device," and IR 16C reads on the "second relay station device provided between said center and said first relay station device," and Hosts 22A or 22B reads on the claimed "terminal communicating with said center via said first and second relay station devices." Internet Radios 16a and 16b may act as "AirHeads," communicating with a router to the Internet, while Internet Radios 16c-16i communicate with the router to the Internet via the "AirHeads" 16a and 16b (see page 4, paragraphs 42 and 43 and figure 1), which reads on the claimed "wherein said first relay station device has a first function for directly communicating with said center and a second function for communicating with said center via said second relay station device and another relay station." Garcia-Luna-Aceves et al fails to disclose choosing an operating mode based upon a communication quantity of the relay station device.

In a similar field of endeavor, Hill et al discloses a system where a master recognizes a need for assistance in managing the ad hoc wireless network in response to experiencing a traffic level exceeding a predetermined threshold and negotiates with a member of the ad hoc wireless network for the member to become a sub-master (see column 1, line 65 – column 2, line 65). The negotiation in response to a traffic threshold reads on the claimed "said second relay station transmits to said first relay station device a communication quantity data indicating a communication quantity in said second relay station device, and wherein said first relay station device is set to one of a first operating mode for executing said first function and a second operating mode for

executing said second function based on said communication quantity data, a mode switching signal being transmitted when the communication quantity reaches a predetermined condition," wherein the negotiation reads on the mode switching signal.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Garcia-Luna-Aceves et al with Hill et al to include the above change in mode in response to communication quantity in order to off-load some or all managed communication devices when capacity or other factors make it necessary for the master to lighten its management load as suggested by Hill et al (see column 1, lines 25-28).

Claims 9, 11, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garcia-Luna-Aceves et al in view of Sausta et al, as applied to claims 1 and 12 above, and further in view of Totaro et al (US006137885A).

Regarding **claims 9 and 19**, the combination of Garcia-Luna-Aceves et al and Sausta et al discloses that internet radios 16a and 16b are connected to the Internet via LAN 20 (see figure 1), which reads on the claimed "mobile communication network line is used for communication between said another relay station and said center". The combination of Garcia-Luna-Aceves et al and Sausta et al fails to disclose direct communication between terminals.

In a similar field of endeavor, Totaro et al discloses a system that allows a direct encrypted radio telephone link between two terminals of a mobile radio network (see column 2, lines 66-67 and figure 1) where the direct radio link is facilitated by the

terminal (see column 3, lines 14-43 and figure 3), which reads on the claimed "communication between said relay station device and said terminal is made through direct communication between terminals".

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Garcia-Luna-Aceves et al and Sausta et al with Totaro et al to include the above direct link between terminals in order to conserve system resources.

Regarding **claims 11 and 20**, the combination of Garcia-Luna-Aceves et al and Sausta et al discloses that internet radios 16a and 16b are connected to the Internet via LAN 20 (see Garcia-Luna-Aceves et al figure 1), which reads on the claimed "mobile communication network line is used for communication between said another relay station and said center". The combination of Garcia-Luna-Aceves et al and Sausta et al fails to disclose direct communication between terminals.

Totaro et al discloses a system that allows a direct encrypted radio telephone link between two terminals of a mobile radio network (see column 2, lines 66-67 and figure 1) where the direct radio link is facilitated by the terminal (see column 3, lines 14-43 and figure 3), which reads on the claimed "communication between said relay station device and said terminal is made through direct communication between terminals".

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Garcia-Luna-Aceves et al and Sausta et al with Totaro et al to include the above direct link between terminals in order to conserve system resources.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Garcia-Luna-Aceves et al in view of Hill et al as applied to claim 7 above, and further in view of Totaro et al.

Regarding **claim 10**, the combination of Garcia-Luna-Aceves et al and Sausta et al discloses that internet radios 16a and 16b are connected to the Internet via LAN 20 (see figure 1), which reads on the claimed "mobile communication network line is used for communication between said another relay station and said center". The combination of Garcia-Luna-Aceves et al and Hill et al fails to disclose direct communication between terminals.

In a similar field of endeavor, Totaro et al discloses a system that allows a direct encrypted radio telephone link between two terminals of a mobile radio network (see column 2, lines 66-67 and figure 1) where the direct radio link is facilitated by the terminal (see column 3, lines 14-43 and figure 3), which reads on the claimed "communication between said relay station device and said terminal is made through direct communication between terminals".

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Garcia-Luna-Aceves et al and Hill et al with Totaro et al to include the above direct link between terminals in order to conserve system resources.

Response to Arguments

Applicant's arguments filed August 1, 2006have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation is provided by Sausta et al: to provide an efficient, automatic technique for temporarily allocating RF communication resources among RF communication systems, as suggested by Sausta (see column 1, lines 26-35).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

The Applicant argues the motivation provided by the Examiner is insufficient for the proposed change. The Examiner respectfully disagrees. Sausta et al is relied upon to teach a mode switching signal based on a communication quantity reaching a threshold. The reference teaches resource that is allocated to a heavily loaded system in order to create an efficient, automatic technique for allocating resources among RF communication systems. This motivation is deemed sufficient to change Garcia-Luna-Aceves as allocating resources to heavily loaded systems in Garcia-Luna-Aceves would create an efficient, automatic technique for allocating resources.

The Applicant argues the affiliation procedure disclosed by Ramanathan does not read on the communication stop signal as claimed. The Examiner respectfully disagrees. Ramanathan discloses a station first attempts to affiliate with an existing cluster gateway station, and, if successful, operates as a cluster member (see column 3, lines 41-50 and figure 2). The attempt to affiliate includes an affiliation request message sent from the station (see column 5, lines 1-10 and figure 3). If at some point the station determines that it is no longer to communicate, it re-executes the affiliation procedure (see column 3, line 42 – column 4, line 10). So, in the event a station is operating as a cluster member can no longer communicate with a cluster gateway, it will execute the affiliation procedure, which includes sending an affiliation request message, and then operate as a cluster gateway. Further, periodically, each gateway station tests its proximity conditions to other gateway stations and if the test indicates that the proximity conditions are exceeded, the station executes a resignation procedure (see column 4, lines 30-46). This meets the claimed limitations of "outputting a

communication stop signal [the affiliation message] when the relay station device cannot communicate with a host station [if at some point the station determines that it is no longer to communicate], and the host station outputting a recovery signal when the relay station is communicable with the host station [the proximity test], and selecting the mode of operation based on one of these signals [cluster member versus cluster gateway].

The Applicant argues Hill fails to disclose the mode switching signal. The Examiner respectfully disagrees. The negotiation with the first communication device and the master reads on the mode switching signal (see column 1, line 65 – column 2, line 65).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan J. Fox whose telephone number is (571) 272-7908. The examiner can normally be reached on Monday through Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Bryan Fox
October 15, 2006

JOSEPH FEILD
SUPERVISORY PATENT EXAMINER